Requirement for Election of Species

Applicants respectfully traverse the requirement for an election of species. In response to the requirement of an election of species, elections are made as follows:

A) The Office action requires an election of a specific antigenic determinant. Applicants note that claims 38-40, 54 and 59-78 are all generic as any antigenic determinant can be used in the claimed methods, including, but not limited to, a myelin basic protein antigen determinant. . Applicants respectfully traverse the requirement for an election of species.

However, in response to the requirement for an election of species to a single antigenic determinant, Applicants elect herein the antigen myelin basic protein (MBP), as recited in new claims 79 and 81. Several exemplary antigenic determinants of myelin basic protein are disclosed in the specification. For example, SEQ ID NO: 25 is a MBP antigen, namely Gp-MBP-69-89, SEQ ID NO: 26 is an MBP antigen, namely Gp-MBP-55-69, and SEQ ID NO: 30 is also a rat MBP antigen, namely rat MBP-69-89 (see the specification on page 47, line 27 to page 28, line 2). New claims 79 and 81 are thus generic to new claims 80 and 82, which are directed to SEQ ID NO: 25, SEQ ID NO: 26, and SEQ ID NO: 30.

If, in asserting the requirement for an election of species, the Examiner is requiring an election of a single amino acid sequence as identified by a sequence identifier, Applicants elect herein antigenic amino acids sequences including SEQ ID NO: 25, as recited in claims 80 and 82.

B) The Office action requires an election of either covalent or non-covalent linkage, as recited in claims 63 and 66. Applicants note that claims 65, 68, 72, 73, 75, and 78 also recite that the linkage is covalent, and claim 76 also recites a non-covalent association. Applicants respectfully traverse the requirement for an election of species.

Applicants submit that either covalent or non-covalent linkage can be used to couple the antigen of interest and the MHC molecule of interest. The chemical properties of single chain MHC molecules including either covalently linked or non-covalently associated antigenic determinant are similar. Exhibit A (Burrows et al., *Protein Engineering* 12:771-8, 1999)

describes the production of single chain MHC molecules loaded with antigenic peptides (non-covalent association), and production of single chain molecules covalently linked to an antigen. Both of these proteins are disclosed to retain structural and conformational integrity consistent with refolded native MHC class II molecules. Thus, the chemical properties of single chain MHC molecules non-covalently associated with antigenic peptides and single chain molecules covalently linked to an antigen are similar.

In addition, the MHC molecules function similarly whether the linkage with the antigen of interest is covalent or non-covalent. Exhibit B (Burrows et al., *J. Immunol.* 161:5987-5966, 1998) documents that single chain MHC molecules, *non-covalently* associated antigen can be used to reduce an immune response. Exhibit C (Burrows, *J. Immunol.* 164:6366-6371, 2000), discloses that MHC molecules *covalently* linked to an antigen can be used to reduce an immune response (also see the specification, e.g. at page 45, lines 1-28, for a description of single MHC molecules). Thus, the nature of the linkage (non-covalent or covalent) with the antigenic determinant, does not affect the function of the MHC molecule.

In view of the fact that single chain MHC covalently and non-covalently linked to an antigenic epitope and covalently linked to an antigenic epitope have similar chemical properties (see Exhibit A) and that single chain MHC covalently and non-covalently linked to an antigenic epitope have similar biological properties (e.g., they can be used to reduce an immune response, see Exhibits B and C), Applicants submit that these two species should be examined together. Moreover, as the MHC sequence and the antigen sequences are identical, searching covalent and non-covalently linkages together is not an undue burden on the Examiner.

Reconsideration of the election of species is respectfully requested. In the unlikely event that the requirement for an election of species is maintained, Applicants elect the species of "covalent linkage," as recited in claims 63, 65, 68, 72, 73, 75, and 78.

C) The Office action requires an election of a specific component of an immune response that is reduced, as recited in claim 38. In response to the requirement for an election of species, Applicants elect T cells, with traverse. Applicants note that claim 37 is generic to claim 38.

D) The Office action requires an election of a single specific disease that is treated, as recited in claim 59. In response to the requirement to elect a single disease process, Applicants elect multiple sclerosis, with traverse. Applicants note that claims 37 and 54 are generic to treatment of any subject, including subjects with multiple sclerosis.

Applicants thank Examiner DeCloux for noting that upon the allowance of a generic claim (e.g. claim 37), the Applicants are entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claims as provided by 37 C.F.R. § 1.141.

CONCLUSION

Examination of the pending claims is respectfully requested. If any minor matters remain to be addressed prior to substantive examination, the Examiner is requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

KLARQUIST SPARKMAN, LLP

By _____
Susan Alpert Siegel, Ph.D.
Registration No. 43,121

One World Trade Center, Suite 1600
121 S.W. Salmon Street
Portland, Oregon 97204
Telephone: (503) 226-7391
Facsimile: (503) 228-9446

Marked-up Version of Amended Claims
Pursuant to 37 C.F.R. §§ 1.121(b)-(c)

Please amend the claims as follows:

64. (Amended) The method of claim 63, wherein the antigenic determinant [is] comprises a peptide antigen.

67. (Amended) The method of claim 66, wherein the antigenic determinant [is] comprises a peptide antigen.

74. (Amended) The method of claim 73, wherein the antigenic determinant [is] comprises a peptide antigen.

77. (Amended) The method of claim 76, wherein the antigenic determinant [is] comprises a peptide antigen.

Please add the following new claims:

79. (New) The method of claim 37, wherein the antigenic determinant comprises a myelin basic protein.

80. (New) The method of claim 79, wherein the myelin basic protein comprises SEQ ID NO: 25, SEQ ID NO: 26, or SEQ ID NO: 30.

81. (New) The method of claim 64, wherein the peptide antigen comprises a myelin basic protein.

82. (New) The method of claim 81, wherein the myelin basic protein comprises SEQ ID NO: 25 SEQ ID NO: 26, or SEQ ID NO: 30.